VISHAY MAS
GENERAL SEMICONDUCTOR

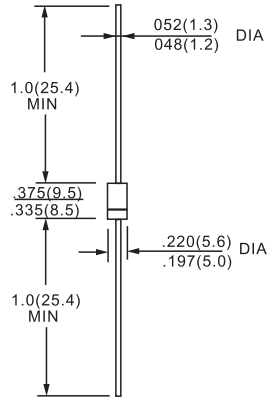
1N5820 THRU 1N5822

20V-40V 3A

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guardring for overvoltage protection
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3 kg) tension

DO-27



Dimensions in inches and (millimeters)

Mechanical Data

Case: JEDEC DO-201AD molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.04 ounce, 1.12 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N5820	1N5821	1N5822	UNITS
* Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	Volts
Maximum RMS voltage	V_{RMS}	14	21	28	Volts
* Maximum DC blocking voltage	V_{DC}	20	30	40	Volts
* Non-repetitive peak reverse voltage	V_{RSM}	24	36	48	Volts
* Maximum average forward rectified current 0.375" (9.5mm) lead length at T_L=95°C	$I_{(AV)}$	3.0			Amps
* Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=75°C	I_{FSM}	80.0			Amps
* Maximum instantaneous forward voltage at 3.0 (NOTE 1)	V_F	0.475	0.500	0.525	Volts
* Maximum instantaneous forward voltage at 9.4 (NOTE 1)	V_F	0.850	0.900	0.950	Volts
* Maximum average reverse current at rated DC blocking voltage (NOTE 1) T_A=25°C / T_A=100°C	I_R	2.0 / 20.0			mA
Typical thermal resistance (NOTE 2)	$R_{\Theta JA}$ / $R_{\Theta JL}$	40.0 / 10.0			°C/W
* Storage and operating junction temperature range	T_J, T_{STG}	-65 to +125			°C

*JEDEC registered values

NOTES:
(1) Pulse test: 300µs pulse width, 1% duty cycle
(2) Thermal resistance from junction to lead vertical P.C.B. mounted, 0.500" (12.7mm) lead length with 2.5 x 2.5" (63.5 x 63.5mm) copper pad

RATINGS AND CHARACTERISTIC CURVES 1N5820 THRU 1N5822

FIG. 1 - FORWARD CURRENT DERATING CURVE

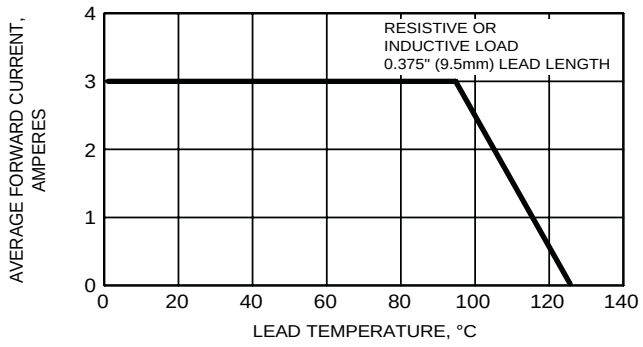


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

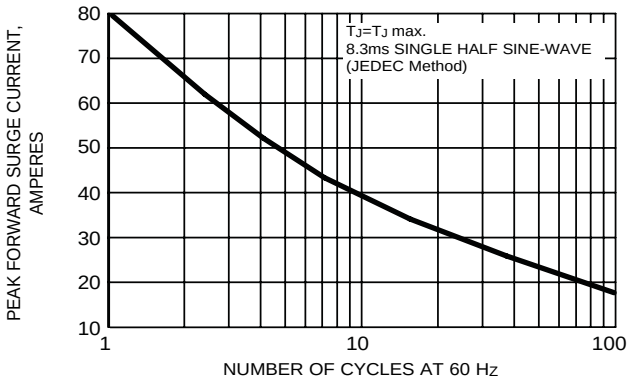


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

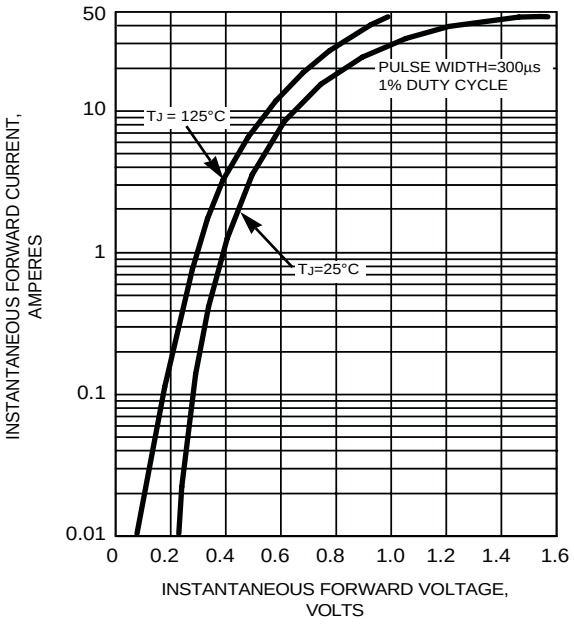


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

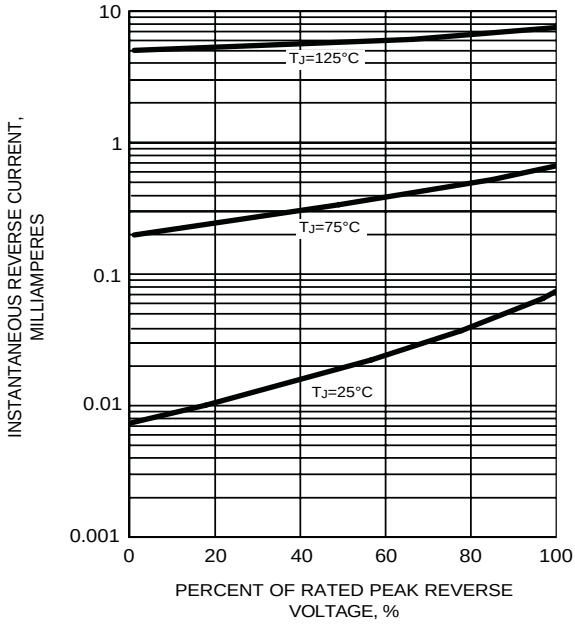


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

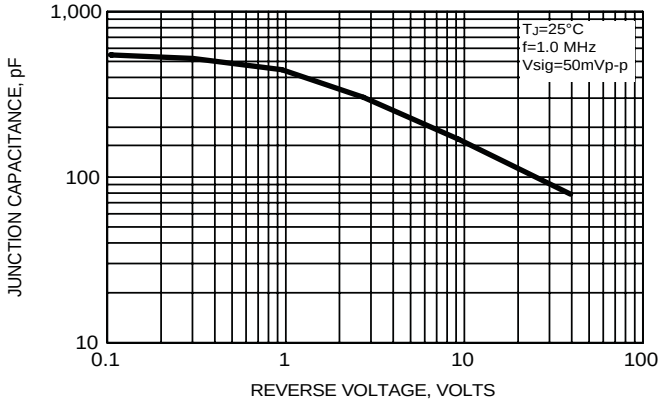


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE